



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D4131-043
Job Sheet 179328



Part No: D4131-043

Job Qty: 8 ea

Part Name: Doubler Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/16/18

Job Tracking No:

Due Date: 6/28/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV C SHEETS 2,9 IPP Rev:A 10.10.06 new issue DD ver:EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup	Run	Workcenter / Supplier	Lead Time	
					hrs	Hrs			
90	Start up Operation	6 Ea	6/28/18	6/28/18	0.00	0.00	Start Up Waterjet		SC 18/06/23
100	Waterjet	6 pcs	6/28/18	6/28/18	0.00	0.67	Waterjet1		SC 18/06/23
120	QC	6 pcs	6/28/18	6/28/18	0.00	0.00	QC8		38
130	Small Fab	6 pcs	6/28/18	6/28/18	0.00	0.38	Small Fab-6		9-89 DAS
150	QC	6 pcs	6/28/18	6/28/18	0.00	0.00	QC5		38
160	HandFinish	6 pcs	6/28/18	6/28/18	0.00	0.34	HandFinish1		SA 18-07-11
161	QC	6 pcs	6/28/18	6/28/18	0.00	0.00	QC7-3		38
165	Small Fab	6 pcs	6/28/18	6/28/18	0.00	0.38	Small Fab-6		DAS
166	QC	6 pcs	6/28/18	6/28/18	0.00	0.00	QC5		38
180	Packaging	6 pcs	6/28/18	6/28/18	0.00	0.00	Packaging3-2		JUL 16 2018
190	QC21-SA	6 Ea	6/28/18	6/28/18	0.00	0.00	QC21		DAS
Part Op 100 - 1-Cut D4131-7 as per Dwg Dwg Rev: C Prog Rev: C 2-Debur as required									
Descriptions: 130 - COUNTER SINK AS PER DWG Debur if necessary.									
165 - ASSEMBLE NUT PLATES AS PER DWG									
									53
									9-89

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M6061T6S.063	6061-T6 .063 Sheet	1.0842 sf (.1807 ea)	90-Start up Operation	
MS20426AD3-3	Rivet	48 Ea (8 ea)	165-Small Fab	5018535-1
MS21069L3	Anchor Nut	24 Ea (4 ea)	165-Small Fab	5050044

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M6061T6S.063	1	318	0
165-Small Fab	MS20426AD3-3	48	4,309	0
	MS21069L3	24	194	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Doubler Assembly	0.098Inches + 0.004 - 0.001	0.102 0.097	0,099 Diameter	
2	Doubler Assembly	0.191Inches + 0.005 - 0.001	0.196 0.190	0,192 Diameter	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																			
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																				
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																				
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																				
Large Fab ☐	Composite ☐	Supplier ☐																																																																					
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval																																																																			
Description Work Order Deviation																																																																							
Root Cause <table style="width:100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> </table>		Environment ☐	No Re-verification ☐			Design ☐	Operator ☐			Doc/Data ☐	Offset/Setup ☐			Equip/Tooling ☐	Supplier ☐			Handling/Pre ☐	Training ☐			Material ☐	Use for Testing ☐			Internal Transport ☐	Poor Information ☐			Tribal Knowledge ☐	Rushing ☐			LOA ☐	Product Improvement ☐			Substation ☐	Process Improvement ☐			Past Expiry Date ☐	Manufacturing Process ☐			Misidentified ☐	Past Due ☐			<table style="width:100%; border: none;"> <tr> <td style="border: none;">☐ Positioned Wrong</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Outside Dimensions</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Over/Under tolerance</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Part Incorrect</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Part Lost/Missing</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Part Moved</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Drawing</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Finish</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Misread</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">☐ Turning Sequence</td> <td style="border: none;"></td> </tr> </table>		☐ Positioned Wrong		☐ Outside Dimensions		☐ Over/Under tolerance		☐ Part Incorrect		☐ Part Lost/Missing		☐ Part Moved		☐ Drawing		☐ Finish		☐ Misread		☐ Turning Sequence	
Environment ☐	No Re-verification ☐																																																																						
Design ☐	Operator ☐																																																																						
Doc/Data ☐	Offset/Setup ☐																																																																						
Equip/Tooling ☐	Supplier ☐																																																																						
Handling/Pre ☐	Training ☐																																																																						
Material ☐	Use for Testing ☐																																																																						
Internal Transport ☐	Poor Information ☐																																																																						
Tribal Knowledge ☐	Rushing ☐																																																																						
LOA ☐	Product Improvement ☐																																																																						
Substation ☐	Process Improvement ☐																																																																						
Past Expiry Date ☐	Manufacturing Process ☐																																																																						
Misidentified ☐	Past Due ☐																																																																						
☐ Positioned Wrong																																																																							
☐ Outside Dimensions																																																																							
☐ Over/Under tolerance																																																																							
☐ Part Incorrect																																																																							
☐ Part Lost/Missing																																																																							
☐ Part Moved																																																																							
☐ Drawing																																																																							
☐ Finish																																																																							
☐ Misread																																																																							
☐ Turning Sequence																																																																							
OTHER : _____																																																																							

3	Doubler Assembly	0.250Inches ± 0.010	0.260 0.240	0,251
4	Doubler Assembly	0.500Inches ± 0.010	0.510 0.490	0,502
5	Doubler Assembly	0.405Inches ± 0.010	0.415 0.395	0,406
6	Doubler Assembly	0.405Inches ± 0.010	0.415 0.395	0,408
7	Doubler Assembly	0.590Inches ± 0.030	0.620 0.560	0,583
8	Doubler Assembly	0.660Inches ± 0.030	0.690 0.630	0,664
9	Doubler Assembly	3.640Inches ± 0.030	3.670 3.610	3,642
10	Doubler Assembly	4.000Inches ± 0.010	4.010 3.990	4,005
11	Doubler Assembly	4.100Inches ± 0.030	4.130 4.070	4,104
12	Doubler Assembly	4.810Inches ± 0.030	4.840 4.780	4,811
13	Doubler Assembly	4.600Inches ± 0.010	4.610 4.590	4,603
14	Doubler Assembly	5.410Inches ± 0.030	5.440 5.380	5,414
15	Doubler Assembly	0.063Inches ± 0.010	0.073 0.053	0,063

Plex 6/18/18 8:55 AM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
								Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								